

Jan
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This application claims benefit of US Provisional
Application No. 60/241872 filed 10/20/2000.

FIELD OF THE INVENTION

The present invention relates generally to copper-bearing aluminum alloys and processes for making the same. More specifically, the present invention is related to age-
5 hardenable, high strength aluminum alloys and processes of making the same.

BACKGROUND OF THE INVENTION

Aluminum alloys have been used in the past in forming a variety of articles or products for structural applications. Some of those aluminum alloys are used in, for
10 example, the aerospace industry. Designers and manufacturers in the aerospace industry are constantly trying to improve fuel efficiency and product performance. One method for improving such items is to produce lightweight materials that still maintain or even improve relative strength.

The strengthening of age-hardenable aluminum alloys has traditionally involved
15 solid solution heat treating, quenching and natural or artificial aging. Natural aging generally consists of allowing the solution heat treated aluminum alloy article to keep at about room temperature for a significant period of time. It is, however, commercially more feasible to artificially age these articles for shorter times at higher temperatures than room temperature. The strengthening of some aluminum alloys may include cold work,
20 such as compression or stretching of the article. Cold work is typically performed on the age-hardenable aluminum alloy article before it is aged.

Accordingly, a need exists for a high strength aluminum alloy and processes for making the same.